REMARKS

In response to the Office Action mailed January 14, 2009, Applicants respectfully request reconsideration. Claims 1-20 were previously pending in this application. Claims 1 and 10 have been amended herein. As a result, claims 1-20 remain pending for examination, with claims 1 and 10 being independent. No new matter has been added.

Rejections under 35 U.S.C. § 112

The Office Action rejects claims 1-20 under 35 U.S.C. § 112, first paragraph, as purportedly containing subject matter which is not sufficiently described in the specification. Particularly, the Office Action alleges that the limitations relating to surface interactions and lattice parameters are not sufficiently described in the specification. Applicants respectfully disagree. As amended, claim 1 recites, "at least some ions from the ionic conductor interact with particles in the active material only on external surfaces of the particles in the active material at least some ions interact with the particles in the active material." This limitation is supported throughout the specification, for example, at FIG. 1, page 5, lines 1-8, and page 14, lines 14-17.

Accordingly, it is respectfully requested that the rejections under 35 U.S.C. § 112, first paragraph, be withdrawn.

The Office Action further rejects claims 1-20 under 35 U.S.C. § 112, second paragraph, as purportedly being indefinite for the use of the term "substantially unchanged." Applicants respectfully disagree. At page 14, lines 9-12, the specification describes examining batteries for crystal structure in the cathode immediately after charging and discharging, and finding no change in crystal structure. Thus, the specification provides a method by which it can be determined whether "lattice parameters of the active material are substantially unchanged after the surface interactions." One of ordinary skill in the art would be able to examine batteries for crystal structure in the cathode immediately after charging and discharging to determine whether crystal structure has changed. For at least this reason, Applicants respectfully submit that claims 1, 10, 12

and 13 are both clear and definite, and that the rejections of claims 1-20 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

Although not required to overcome the rejections under 35 U.S.C. § 112, second paragraph, Applicants have herein amended claims 1 and 10 to remove the limitation, "lattice parameters of the active material are substantially unchanged after the surface interactions." For this additional reason, Applicants respectfully request that the rejections of claims 1 and 10 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Rejections under 35 U.S.C. § 103

The Office Action rejects claims 1-20 under 35 U.S.C. § 103(a) as purportedly being obvious over Hoffman (U.S. Patent No. 4,894,302) in view of Mayes (U.S. Patent Publication No. 2002/0048706 A1). Without acceding to the propriety of these rejections, Applicants have herein amended each of independent claims 1 and 10 to more clearly point out some of the distinguishing features. In view of these amendments, Applicants respectfully request reconsideration.

1. Overview of Hoffman and Mayes

Both Hoffman and Mayes describe rechargeable batteries in which charging and discharging take place via intercalation reactions. Hoffman describes intercalation reactions as insertion of metal guest ions into inorganic host structures (Hoffman: column 2, lines 21-23). Hoffman states that the active cathode material is a material capable of containing an intercalated species in its structure (Hoffman: column 5, lines 57-59).

Mayes describes intercalation as a reaction in which ions, atoms or molecules penetrate between the layers of a solid material to form intercalation compounds (Mayes: paragraph 0070). Particularly, Mayes describes lithium ions diffusing within an ion host particle (Mayes: paragraph 0106).

2. Claims 1

As previously presented, claim 1 recites, "at least some ions from the ionic conductor undergo surface interactions with particles in the active material." At page 8, the Office Action appears to assert that Hoffman discloses this limitation. Particularly, the Office Action states that "an interaction must occur for the metal guest ion to breach the surface of the host structure and insert itself within the structure." While Applicants disagree with this interpretation of the claim term "surface interactions," Applicants have herein amended claim 1 to recite, "at least some ions from the ionic conductor interact with particles in the active material **only** on external surfaces of the particles in the active material" (emphasis added). By contrast, as stated in the Office Action, Hoffman describes insertion of metal guest ions **into** inorganic structure (emphasis added). Therefore, Hoffman fails to disclose interactions between at least some ions from the ionic conductor and particles in the active material "only on external surfaces of the particles in the active material." For at least this reason, claim 1, as amended, patentably distinguishes over the alleged combination of Hoffman and Mayes.

Accordingly, it is respectfully requested that the rejection of claim 1 under 35 U.S.C. § 103 be withdrawn.

Claims 2-9 depend from claim 1 and are allowable for at least the same reasons. Accordingly, it is respectfully requested that the rejections of these claims be withdrawn.

3. Claim 10

As amended, claim 10 recites, "at least some ions from the ionic conductor interact with particles in the active material only on external surfaces of the particles in the active material." As should be clear from the foregoing discussion of Hoffman, Hoffman fails to disclose or suggest this limitation. Therefore, claim 10 patentably distinguishes over the alleged combination of Hoffman and Mayes. Accordingly, it is respectfully requested that the rejection of claim 10 under 35 U.S.C. § 103 be withdrawn.

Claims 11-20 depend from claim 10 and are allowable for at least the same reasons. Accordingly, it is respectfully requested that the rejections of these claims be withdrawn.

General Comments on Dependent Claims

Since each of the dependent claims depends from a base claim that is believed to be in condition for allowance, Applicants believe that it is unnecessary at this time to argue the further distinguishing features of all of the dependent claims. However, Applicants do not necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor do Applicants concur that the basis for rejection of any of the dependent claims is proper. Therefore, Applicants reserve the right to specifically address in the future the further patentability of the dependent claims not specifically addressed herein.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension or time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 23/2825 under Docket No. S1459.70129US00 from which the undersigned is authorized to draw.

Dated: 3-26-09

Respectfully submitted,

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